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ACOUSTIC EFFECTS OF SHAKEN SAND  
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#### Abstract

Certain sands naturally produce an acoustical effect when they shift. This phenomenon has been known for centuries and has been primarily studied and observed in the field. Prior research groups examined water content, granular size, granular content, electrical effects, and inter-granular friction forces in an attempt to explain the phenomenon with little result. Based on these previous findings and observations, we designed and constructed a simple pendulum shaking apparatus for data collection and analysis. Sand samples from Panama City, Florida, San Juan, Puerto Rico, La Salle-Peru, Illinois, and Lake Mojave Desert, Arizona were all sieved to a uniform size, baked to dry the samples, and sealed as suggested from previous research. An additional sample was collected from Barking Sands Beach, Hawaii, which was not sieved, only baked and sealed. The un-sieved Hawaiian beach sand and the sieved Lake Mojave Desert sand were the only samples that produced the acoustical emissions commonly referred to as burping. Initial results indicate that granular size and uniform shape are not as important in producing the sound as previously thought.

#### Category

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